

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

1. (Previously Presented) A steering control apparatus comprising;
target steering reaction torque generation means for generating a target steering reaction torque as a target value of a steering reaction torque to be applied to a steering wheel, and for controlling steering reaction torque to coincide with the target steering reaction torque, wherein the target steering reaction torque generation means includes steering shaft reaction torque estimation means for estimating a steering shaft reaction torque, and
reference road reaction torque estimation means for estimating a reference road reaction torque, the target steering reaction torque generation means using the steering shaft reaction torque estimated by the steering shaft reaction torque estimation means and the reference road reaction torque estimated by the reference road reaction torque estimation means to set the target steering reaction torque.
2. (Previously Presented) The steering control apparatus as set forth in claim 1, wherein the steering shaft reaction torque and the reference road reaction torque are weighted and are used for setting of the target steering reaction torque.
3. (Previously Presented) The steering control apparatus as set forth in claim 2, wherein a coefficient used for weighting of the steering shaft reaction torque and the reference road reaction torque is changed according to speed of a vehicle incorporating the steering control apparatus.
4. (Currently Amended) ~~A~~ The steering control apparatus as set forth in claim 1, wherein the target steering reaction torque set by the target steering reaction torque generation means and the target steering reaction torque set by the reference road reaction

torque during holding of a steering wheel connected to the steering control apparatus are used for weighting, according to steering angular velocity, to set a new target steering reaction torque.

5. (Currently Amended) The steering control apparatus as set forth in claim 1, including a steering wheel shaft coupled to a steering wheel and a wheel turning mechanism for turning a wheel coupled to each other through a differential gear mechanism, ~~differential gear mechanism~~, wherein the steering shaft reaction torque estimation means uses a motor current of a steering angle motor for controlling wheel steering angle, steering reaction torque, and steering shaft angular acceleration to estimate the steering shaft reaction torque.